

What is claimed is:

1. A low noise pneumatic tire having a tread, the tread having a radially inner surface facing to a cavity of the tire, belt-shaped sound absorbing members being mounted on the radially inner surface of the tread at prescribed intervals circumferentially of the tire by a fixing elastic band, the belt-shaped sound absorbing members each comprising at least one layer formed of a porous material having an apparent density of 10 kg/m^3 to 70 kg/m^3 .
2. A low noise pneumatic tire according to claim 1, wherein a total longitudinal length of the belt-shaped sound absorbing members mounted on the radially inner surface of the tread is equal to or greater than 30% of an entire circumferential length of the radially inner surface of the tread.
3. A low noise pneumatic tire according to claim 1 or 2, wherein the at least one belt-shaped sound absorbing layer comprises one belt-shaped sound absorbing layer, the one belt-shaped sound absorbing layer being 5 mm to 50 mm in thickness.
4. A low noise pneumatic tire according to claim 3, wherein the one belt-shaped sound absorbing layer has a radially inner surface in a form of an uneven surface.
5. A low noise pneumatic tire according to claim 4, wherein the uneven surface is 20 mm or less in unevenness.
6. A low noise pneumatic tire according to any one of claims 1 to 5, wherein the belt-shaped sound absorbing members each

have an acoustic absorption coefficient of 10% or greater at a frequency of 200 Hz.

7. A low noise pneumatic tire according to claim 1 or 2, wherein the at least one belt-shaped sound absorbing layer comprises two belt-shaped sound absorbing layers, each of the two belt-shaped sound absorbing layers having a thickness ranged from 5 mm to 45 mm, a total thickness of the two belt-shaped sound absorbing layers being 50 mm or less.

8. A low noise pneumatic tire according to claim 7, wherein one of the two belt-shaped sound absorbing layers has an acoustic absorption coefficient of 10% or greater at a frequency of 200 Hz.

9. A low noise pneumatic tire according to claim 8, wherein the other of two belt-shaped sound absorbing layers has an acoustic absorption coefficient of 40% or greater at a frequency of 1 kHz.

10. A low noise pneumatic tire according to claim 7, wherein the two belt-shaped sound absorbing layers comprise an outer belt-shaped sound absorbing layer in contact with the radially inner surface of the tread, and an inner belt-shaped sound absorbing layer disposed radially inwardly of the outer belt-shaped sound absorbing layer, the outer belt-shaped sound absorbing layer being formed of a porous material having a tensile strength higher than that of the inner belt-shaped sound absorbing layer, the inner belt-shaped sound absorbing layer

having an acoustic absorption coefficient of 10% or greater at a frequency of 200 Hz.

11. A low noise pneumatic tire according to claim 1 or 2, wherein the at least one belt-shaped sound absorbing layer comprises a first belt-shaped sound absorbing layer having an acoustic absorption coefficient of 10% or greater at a frequency of 200 Hz, and a second belt-shaped sound absorbing layer that covers the entire first belt-shaped sound absorbing layer and has a sound absorbing property different from that of the first belt-shaped sound absorbing layer, the second belt-shaped sound absorbing layer including an inner portion having a plurality of holes through which the tire cavity communicates with the first belt-shaped sound absorbing layer.

12. A low noise pneumatic tire according to claim 1 or 2, wherein the at least one belt-shaped sound absorbing layer comprises a first belt-shaped sound absorbing layer having an acoustic absorption coefficient of 10% or greater at a frequency of 200 Hz, and a second belt-shaped sound absorbing layer that covers the first belt-shaped sound absorbing layer so as to expose only one longitudinal side face of the first belt-shaped sound absorbing layer 18 to the tire cavity 4 and has a sound absorbing property different from that of the first belt-shaped sound absorbing layer.

13. A low noise pneumatic tire according to claim 12, wherein the first belt-shaped sound absorbing layer covered with the

second belt-shaped sound absorbing layer has a longitudinal length that is substantially 25% of an entire circumferential length of the radially inner surface of the tread, two belt-shaped sound absorbing members each having the first belt-shaped sound absorbing layer covered with the second belt-shaped sound absorbing layer being placed at locations opposite to each other with the one longitudinal side faces thereof exposed to the tire cavity facing to one side.

14. A low noise pneumatic tire according to claim 11, 12 or 13, wherein each of the first belt-shaped sound absorbing layer and second belt-shaped sound absorbing layer has a thickness ranged from 5 mm to 45 mm, a total thickness of the first belt-shaped sound absorbing layer and second belt-shaped sound absorbing layer being 50 mm or less.

15. A low noise pneumatic tire according to any one of claims 1 to 14, wherein the fixing elastic band is formed of a synthetic resin, the fixing elastic band being 10 mm to 30 mm in width, and 0.5 mm to 2.0 mm in thickness.

16. A low noise pneumatic tire according to claim 15, wherein the fixing elastic band is formed of a polypropylene resin having flexural modulus of elasticity ranged from 1100 MPa to 1800 MPa.